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Amendments to the Abstract

Please replace the Abstract as currently set out on page 17 with the following amended Abstract.

ABSTRACT OF THE DISCLOSURE

A tunable (reconfigurable) OADM provides multiple drop ports and multiple add ports by which desired channels can be removed from, or added to, a composite optical signal. ~~The channels added to and dropped from the optical signal can be individual channels (with a single wavelength per channel) and therefore enabled for direct connection to fixed (or tunable) optical transmitters and optical receivers, respectively. Alternatively, the channels added to and dropped from the optical signal can themselves be multiplexed, enabling more advanced features. The OADM provides a low loss architecture for all the optical signals that traverse through the device, as required for transparent optical networks.~~ In one embodiment, a programmable demultiplexer is arranged to receive an input signal containing components at x different wavelengths from an optical input port, and distribute the input signal components among K output ports. $K-1$ of the output ports are the "drop" ports of the OADM, and cumulatively contain w different wavelengths. The remaining port, which is the "through port" that carries the z wavelengths not dropped from the original input signal, is connected to the first port of an M port programmable multiplexer having $M-1$ other input ports. The remaining $M-1$ ports are the "add" ports of the OADM, which cumulatively receive v different wavelengths to be added by the OADM. ~~By appropriately controlling the demultiplexer and multiplexer, the OADM can independently both drop and add channels to the optical signal, resulting in an output signal containing y wavelengths. In the foregoing description, v , w , x , y and z are integers, where $x+v-w=y$ and $z-x-w=y-v$.~~